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## ABSTRACT

Tinto's retention model provided the theoretical framework for the design of a comprehensive student-retention study at an urban, public 4-year college. The study employed quantitative and qualitative methods to obtain a broad understanding of the many salient factors that contribute to student persistence over a 4-year period. Institutional data files were examined to obtain longitudinal retention data and student background information. Focus-group interviews and surveys with fourth-year persisters (N=114), supported by broadly-based survey data, were utilized to assess the students' academic and social integration with the college. Study results indicated that background characteristics were less critical to long-term retention than the students' level of integration within the institution. In this regard, academic and social factors were considered important to the development of strong educational goals and institutional commitments. The study also showed the importance of assessing student attitudes toward academic and social issues and of integrating a variety of qualitative and quantitative data in order to more fully understand the salient aspects of student retention. Contains 12 references. (GLR)

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THE INTEGRATION OF QUALITATIVE AND QUANTITATIVE  
RESEARCH IN A LONGITUDINAL RETENTION STUDY

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*for Management Research, Policy Analysis, and Planning*

This paper was presented at the Thirty-First Annual Forum of the Association for Institutional Research held at The Westin St. Francis, San Francisco, California, May 26-29, 1991. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum Papers.

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Forum Publications Editorial  
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THE INTEGRATION OF QUALITATIVE  
AND QUANTITATIVE RESEARCH IN  
A LONGITUDINAL RETENTION STUDY

Tinto's retention model provided the theoretical framework for the design of a comprehensive retention study at a public four-year college. Qualitative data sources consisted of two focus group interviews; quantitative sources, institutional data files and a student survey. Results indicated that background characteristics were less critical to long-term retention than the students' level of integration within the institution. In this regard, academic and social factors were important to the development of strong educational goals and institutional commitments. The study showed the importance of assessing student attitudes toward academic and social issues and of integrating a variety of qualitative and quantitative data to understand more fully the salient aspects of student retention.

Research has shown that undergraduate retention is a multidimensional issue and that many factors impact on student decisions to persist at college. A comprehensive model that accounts for the complexity of the issue is one developed by Vincent Tinto (1975; 1987) and corroborated by other researchers (Pascarella, Smart, and Ethington, 1986; Stage, 1989; Terenzini and Wright, 1987; Voorhees, 1987). In accord with Tinto's retention framework, the dropout process becomes a function of the students' background characteristics, educational goals, and institutional commitment. The latter two factors, critical to program completion, are highly related to the students' level of integration within the academic and social systems of the institution.

The above model provided the theoretical framework for the design of a comprehensive retention study at an urban, public four-year college. The researcher employed quantitative and qualitative methods to obtain a broad understanding of the many salient factors that contribute to student persistence over a four-year period. In this regard, institutional data files were examined to obtain longitudinal retention data and student background information. Focus group interviews with fourth-year persisters, supported by broadly-based survey data, were utilized to assess the students' academic and social integration within the College. These latter procedures facilitated an in-depth understanding

of pertinent academic and social experiences that strengthened the students' educational and institutional goal commitments and contributed to their persistence at the College over time.

#### **METHOD**

##### **Sample**

The cohort selected for this longitudinal study consisted of freshman students who initially enrolled at the College in the fall 1986. In order to include in the sample students with common undergraduate experiences, the decision was made to delete from the initial entering cohort students with special academic needs, i.e., transfers, readmits, and foreign students with limited English language proficiency. In view of these latter considerations, 701 first-time freshmen who enrolled at the College in the fall 1986 were selected. This cohort was comprised of 498 students who initially enrolled on a full-time basis; 203, on a part-time basis. Institutional data files were analyzed to identify those students who were still enrolled at the College four years later. As a result, it was possible to assess enrollment patterns over time and to compare the entering group and the fourth-year persisters with respect to pertinent characteristics.

##### **Procedures**

The fall, 1986 freshman cohort was matched against the fall, 1989 College Enrollment File to identify those students

who had persisted into their fourth year. Additionally, the Student Master File was accessed, and appropriate demographic and academic data were compiled for the initial freshman group as well as the fourth-year persisters. Chi-square analyses were performed to determine if there were significant differences between the two student groups with respect to pertinent background characteristics.

Additionally, two focus group interviews were held with a sampling of fourth-year persisters. Research has shown that the focus-group method can offer the researcher a unique opportunity to collect pertinent information on specific topics through semi-structured group interview techniques (Bers, 1987; Krueger, 1988; Morgan, 1988). Consequently, the interviews provided considerable in-depth information about the academic and social experiences of the students over time. In the fall 1989, a letter signed by the Vice President for Academic Affairs was mailed to the 242 fourth-year persisters. The letter informed the students of the purpose of the interview and indicated that each student would be paid \$15 for his/her participation in the project. Several weeks later, a follow-up letter was mailed. Subsequently, two focus group interview sessions were held. The Director of Institutional Research, a psychologist trained in interviewing techniques, developed the interview guide that was utilized at each session and served as the group moderator. To enhance reliability, the same topics

were introduced at each session. Topics pertained to the freshman course requirements, general education courses, the major, the faculty, extracurricular activities, student services, graduation and re-enrollment issues, as well as overall assessments of the college experience. Sufficient flexibility was given to permit a spontaneous flow of responses, so that some of the above topics were more widely discussed at individual sessions than others. Each one and one-half hour session was audiotaped and transcribed verbatim. Participant anonymity was maintained.

Although the interviews could provide a rich source of information about student attitudes and experiences, responses given by the interview participants could not be construed to be necessarily representative of the larger group. Therefore, the Director of Institutional Research constructed an objective instrument which broadly addressed many of the same issues covered in the interview sessions. Included in the instrument were one evaluative item and ten Likert-type items which assessed attitudes toward pertinent academic and social issues. In response to the Likert-type items, students were asked to assign ratings on a 4-point scale, or to select the "not applicable" category, wherever appropriate. In the fall 1989, the instrument was mailed to the fourth-year persisters who did not participate in the focus-group interviews. Several weeks later, a second mailing, which included a follow-up letter, was conducted.

The students were requested to complete the questionnaire anonymously and to return the completed instrument in the postage-paid return envelope to the Office of Institutional Research.

## RESULTS

### Characteristics of the Persisters

An analysis of institutional data files showed that long-term retention trends were similar to those of other urban public colleges (Davila, 1985; Murtha, Protash, and Kaufman, 1983; Porter, 1989). In this regard, 35% of the initial cohort were still enrolled at the College four years later; 71% of these persisters were upperclassmen. Approximately 10% of the initial cohort had been academically dismissed; for the others, attrition was voluntary. A greater proportion of full-time entrants persisted and had attained upperclassman status by the fourth year than was the case for part-time entrants.

Data were compiled and univariate chi-square analyses were performed to determine if there were significant differences between the initial cohort and the fourth-year persisters with respect to gender, age, race, and SAT scores. Results are presented in Table 1.

TABLE 1. Comparison of Freshman Entrants  
And Fourth-Year Persisters By  
Selected Factors

| Factor       | Entering<br>Freshmen | Fourth-Year<br>Persisters | $\chi^2$ |
|--------------|----------------------|---------------------------|----------|
| Gender       |                      |                           | 1.80     |
| Male         | 347                  | 108                       |          |
| Female       | 354                  | 134                       |          |
| Age at Entry |                      |                           | 2.23     |
| Under 25     | 554                  | 202                       |          |
| 25+          | 147                  | 40                        |          |
| Race         |                      |                           | 0.21     |
| Minority     | 348                  | 116                       |          |
| Non-Minority | 353                  | 126                       |          |
| SAT Scores   |                      |                           | 0.31     |
| Below 800    | 354                  | 145                       |          |
| 800+         | 144                  | 53                        |          |

As indicated in Table 1, results of the chi-square analyses showed that there were no significant differences between the initial cohort and the fourth-year persisters with respect to gender, age, race, or SAT scores.

#### Focus Group Interviews and Survey Data: Reporting Format

Although two mailings were conducted and offers of payment were made for participation in the project, only 14 of the 242 persisters agreed to participate in the focus group sessions. Nevertheless, participants were representative of the larger group of persisters with respect to gender, ethnicity, and academic discipline. In view of the relatively small number of participants and the common content of the interview sessions, the responses of both

groups were combined. With respect to the analysis of interview data, it was necessary to develop a format that would be appropriate for reporting qualitative data. In this regard, interview questions were open ended and participant interaction was encouraged. Therefore, the numeric coding of responses was judged to be inappropriate, and the decision was made to report pertinent interview data verbatim by topic. As a result, it was possible to retain for reporting purposes the essential elements of this qualitative method.

With regard to the survey, two mailings were conducted. The instrument was mailed to the 228 students who did not participate in the focus group interviews. Completed questionnaires were received from 44% of this group. Survey responses generally reflected those given by the interview participants.

To present the combined interview and survey findings in a succinct, meaningful way, data for each academic and social topic were reported separately. The format included a descriptive summary of interview responses; representative student citations to indicate the range and intensity of student responses to that topic; and a summary of pertinent survey data, wherever feasible. In this paper, only those interview topics relevant to the theoretical retention model have been included, and only two verbatim citations have been reported for each interview topic. More detailed quotations in these and other areas have been presented in other

institutional research papers, and may be obtained upon request. .

**Focus Group Interviews and Survey Data: Findings By Content Area**

All College Freshman Requirements. Students whose entry-level skills warranted their placement in remedial courses were somewhat disheartened with the need to enroll initially in non-degree credit courses. However, in their assessments of the regular freshman program, the majority of interviewees indicated that the college-level English and mathematics courses were helpful in preparing them for subsequent college work. Verbatim comments in these areas are reported as follows.

"This course is a non-degree course. --- Why wasn't I credited? We paid for those credits."

"The professor taught us all the basics of writing like old rules of grammar, and to this day I am a very good writer because of that, because I pay attention to the little rules."

The survey items completed by the larger student group reflected the attitudes shown by the interview participants. In this regard, when asked to assign ratings to the freshman courses in terms of the knowledge they had developed, 72% of the respondents assigned a rating of "excellent" or "good" to the freshman English courses; 69%, to the freshman mathematics courses.

General Studies Area Courses. In providing retrospective assessments of the general studies area courses, several students indicated that there were too many course requirements. On the other hand, the majority commented favorably on the general studies requirements.

"I knew right out of high school that I wanted to be a teacher. When I came here and I saw all --- I had to take, I said, why do I have to take all that stuff?"

"I was excited when I saw that we had to take all of those different courses. --- I think that no matter what field you go into, having knowledge about the world around you will help."

Overall, the survey ratings assigned to the general studies area courses reflected the positive interview comments. When asked to assign an overall rating, in terms of the knowledge they had developed, 73% of the students assigned a rating of "excellent" or "good" to the area courses; 23%, "fair"; 4%, "poor".

Academic Advisement. Student assessments of advisement prior to their declaration of a major were considerably less positive than were comments made about other first-and second-year issues.

"It was more like an assembly line --- they said this is what you take, and you really didn't know your advisor that well."

"Mine was more like research ... at one point, I was just doing my own thing, like advising myself, making my own schedule."

Survey ratings of first-and second-year advisement reflected the interview comments, and were somewhat less favorable than other indicators. In this regard, overall, approximately 45% of the survey respondents assigned ratings of "excellent" or "good"; 29%, "fair"; 26%, "poor".

Academic Major. Some students reported that they had decided on an academic major prior to enrolling at the College; others, subsequent to their initial enrollment. Some persisted with their first choice; others changed their academic major.

"I think I decided before I even graduated high school, what it was that I wanted to do."

"I know a lot of people that have come back to school and re-educated. That's why when I first came here, I tried to take a little bit of everything just to see what exactly I would like and what I wouldn't."

Once the students made a definite decision and pursued their major course work at the College, their assessments of the knowledge acquired in the academic major were overwhelmingly favorable. In this regard, 92% of the students assigned a survey rating of "excellent" or "good" to the academic major; 7%, "fair"; 1%, "poor".

Faculty. Closely related to the academic major in terms of important components of the undergraduate experience are student associations with faculty. In this regard, in the interviews, a few students reported somewhat unfavorable experiences. However, the majority made favorable comments about the faculty with respect to availability and competence.

"Some of the teachers I had were excellent teachers. They loved their field and showed they cared about their students and listened to what you had to say.--- Some teachers didn't want to know anything about how you felt. It was their class."

"The teachers treated you like a person, not a number like some other schools. --- here you can talk, some of them you can talk to, they help you with other things."

Extracurricular Activities/College Friendships. Student reports of involvement in clubs, sports, social activities varied according to their personal life situations and outside commitments.

"I play on one athletic team and (participate in) two different clubs. We have a nice time."

"I don't have any friends, acquaintances. --- My life revolves around my kids, getting to work, getting to school, going home. --- It's not like 18 year olds ---. They have more social life. A lot of us are older and there is no time for that."

The range of extracurricular involvement reported by the students interviewed was reflected in the survey responses, as well. In this regard, only 37% of the survey respondents reported that they had participated in campus activities. Of this group, 62% assigned ratings of "excellent" or "good" to the student activities; 22%, "fair"; 16%, "poor."

Financial Aid. Many of the students interviewed indicated that they received financial aid; several reported that their employer offered tuition reimbursement. Most of the students reported some difficulties in financing their undergraduate education.

"It seems like every year it (financial aid) gets lower. Sometimes they tell you, you can't get any because your parents make too much money. If that's the case, where is the money that they're making?"

"After three years, I finally got my job to pay for it. So, now it's easier."

Stopout Behavior. Some of the students reported that they had stopped out for one or two semesters subsequent to their first year at the College.

"I had stopped coming to the College for a year, my second year here, and I decided that, it wasn't money or anything, it was for myself to really find out what it is that I wanted to do. So, I left the college for a year, and I came back the following year. I decided that I really needed that degree and this is really where I wanted to be."

"I felt that taking a year off was right for me. Why go to school and not have direction, not know where you are or where you want to be? And that's why I took that year off, and it worked."

Graduation Issues. Although most of the students interviewed expressed an interest in attending graduate school, many reported difficulties in meeting all the undergraduate degree requirements in a timely manner. Most indicated that they would be graduating in more than four years.

"The first semester you get here you have to take the pre-college courses, and they don't go toward your graduation."

"Most people think that you're supposed to get out in four years. It's not possible anymore. It's either four and half, five or six."

Overall Assessments: Summary. When asked in the interviews to cite their first, spontaneous association to the College, the students mentioned the (positive and negative) reputation of the institution as well as academic and career opportunities. When asked to cite their most positive experience at the College, students mentioned extracurricular activities, career opportunities and, particularly, the faculty. When asked to comment on their most negative experience, the students indicated problems with information, course cancellations, tuition increases.

When asked if they would enroll again, the majority responded in the affirmative and cited most often the convenient location of the College and the advantages of a small school.

#### DISCUSSION

Overall, results supported Tinto's theoretical model of retention. Longitudinal data showed that background characteristics were less critical to retention than the students' academic and social integration. With regard to academic issues, interview and survey data provided considerable evidence to suggest a strong academic integration within the institution. In this regard, the majority of students indicated that the first-year courses in English and mathematics were helpful in preparing them for subsequent college-level work. Further, student assessments of the general education courses indicated a retrospective appreciation of the comprehensive College liberal arts program. Overall, the area of greatest consistent satisfaction was that of the academic major; the area of greatest dissatisfaction, that of academic advisement, which suggested a need to provide greater program structure during the freshman year.

With regard to the students' social integration within the institution, the majority experienced frequent positive interactions with faculty. However, interactions with peers varied according to the students' personal life situations and outside commitments; socialization was considerably more

limited among the adult students. In line with Tinto's position, the older students' commitment to the goal of college completion may have ameliorated the effect of their limited opportunities for peer-group interactions.

The relatively high level of institutional integration for the majority of students was reflected in their educational goals and commitment to degree completion. In this regard, despite financial and personal-life situations which often resulted in stopout behavior, most of the fourth-year persisters expressed satisfaction with the institution, indicated they would re-enroll, and anticipated enhanced educational and career opportunities subsequent to graduation. Overall, findings corroborated the need to integrate a variety of qualitative and quantitative data to understand more fully the salient aspects of student retention.

This study has shown the relevance of Tinto's model for an urban, public four-year college. Academic and social factors, unlike background characteristics which were found to be weak predictors of persistence, were important to the development of strong educational goals and institutional commitments. Further research may focus on the use of qualitative and quantitative methods to assess retention at different educational levels for different populations of college students. As a result, colleges and universities may develop appropriate strategies to enhance their institutional retention rates.

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